

REMARKS

In the Office Action dated September 9, 2003, claims 1-8 and 10 stand rejected under 35 U.S.C. §103 as unpatentable over United States Patent No. 5,795,285 (hereinafter “McLaughlin”) in view of United States Patent No. 6,245,241 (hereinafter “Kupczik”). Claim 9 stands rejected under 35 U.S.C. §103 as unpatentable over McLaughlin in view of Kupczik and United States Patent No. 3,975,266 (hereinafter “Baize”). Specifically, the Office Action recites that “It would have been obvious to one skilled in the art to modify the method of McLaughlin et al. by utilizing the recited oxidation process in view of the teachings of Kupczik et al., to aid in oxidizing organic compounds in the dredged material.” Office Action at page 2. The Office Action further recites that “It would have been obvious to one skilled in the art to modify the references as applied above by adding a polyelectrolyte flocculating agent in view of the teachings of Baize, to aid in recovering sludge from the dredged material.” Office Action at pages 2-3.

In response, Applicants have amended Claim 1 to clarify that the invention claimed requires the admixing of the dredged material with oxidants at one or more points during performance of steps (a) – (c) of the claimed process. Support for the amendment is found at paragraph 10, lines 1-3 (“If the dredged material contains organic contaminants, oxidizing agents can be included in an additive package 40 which is mixed in mixer 50 and added to slurry feed tank 30”); paragraph 18, lines 7-8 (“Material smaller than the large size material will drop through the vibratory screen and into an agitated mixing tank”); paragraph 21, lines 1-4 (“Filter cake produced during the mechanical dewatering process will typically exit the belt or filter presses or centrifuges on conveyors that will deliver cake to a pug mill, as necessary, for

blending first with an oxidizing solution for contaminant reduction") and lines 8-9 ("If required, oxidant can also be added to the dilution tank"); as well as in Claims 2-5.

Rejection of Claims 1-8 and 10 under 35 U.S.C. §103(a)

Claims 1-8 and 10 have been rejected as being obvious. The Examiner contends that "It would have been obvious to one skilled in the art to modify the method of McLaughlin et al. by utilizing the recited oxidation process in view of the teachings of Kupczik et al., to aid in oxidizing organic compounds in the dredged material." Office Action at page 2.

In response, Applicants respectfully submit that the Examiner's obviousness rejection is misplaced. Applicants point out that the Kupczik reference cited by the Examiner teaches a use of oxidization whereby the method "effectively utilizes a combination of the cavitation and oxidation procedures" (Kupczik, column 2, lines 44-45). The Kupczik reference further teaches that "the organic components attached to the surface of the mineral particles are fully or partially dislodged from the surfaces of the mineral particles by the implosion of the cavitation bubbles." (Kupczik, column 4, lines 40-43). In discussing removal of contaminants, Kupczik teaches that "Chemical conversions occur easily in the high energy cavitation zone and the admixed oxidant oxidizes hydrocarbon compounds whereby the affinity to the surrounding water and consequently, their solubility is increased" (*Id.*, column 4, lines 43-47) and also that "By the oxidation and the chemical cracking processes initiated by the cavitation, the transfer of the contaminants into the water phase is facilitated such that the separation of the contaminants by subsequent separation processes is facilitated." (*Id.*, column 4, lines 48-51).

The present invention, in contrast, does *not* require either physical dissociation of organic contaminants from the dredge material or transfer of organic contaminants into the aqueous

phase. As is seen in the specification, the liquid effluent produced by the Applicant's process does not contain any organic contaminants. *See* paragraph 20, lines 5- 11)(“The sediment as delivered in the barge is anticipated to contain solids in the 40 +/- 10% weight percent range, and therefore, some filtrate will be pumped to the barge to aid in producing a suitable slurry for the dewatering operation while the balance of the filtrate water will be disposed of in accordance with all applicable government rules and regulations. Prior to disposal, this effluent will be passed through a sand filter and other suitable equipment to reduce suspended solids and to meet all applicable water discharge specifications.”) Further, the current invention does not contemplate physical separation of all organic contaminants in an aqueous solution prior to the dewatering phase, instead requiring further removal of the presence of harmful organic compounds in the dredged material through the addition of admixed oxidizers during the storage of sediment in the agitated mixing tank and/or during formation of the Beneficial Use Product.

See Paragraphs 14, 18, 21.

In addition, Applicants respectfully point the Examiner's attention to §2143.01 of the Manual of Patent Examining Procedure (“Suggestion or Motivation to Modify the References”), which recites in relevant part:

THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE.

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.

Applicants respectfully submit that the Examiner has impermissibly changed the principle of operation of the McLaughlin invention in order to modify the McLaughlin invention with the teachings of the Kupczik invention. Like the present application, the McLaughlin invention does not require dissociation of the organic contaminants from the dredged material.

Rather, the McLaughlin reference requires the destruction of organic contaminants physically remaining within the dewatered fraction (e.g., a solid fraction). *See* McLaughlin, column 2, lines 62-67 (“In accordance with the present invention, the as dredged sediment is screened to remove large particles with minimal contamination, partially dewatered, and then vitrified with a plasma melter to destroy the hazardous organics and convert the contaminated fines to a low-leachability glass product suitable for use as construction aggregate.”)

Neither does McLaughlin or the present invention require the use of an energy source to physically dissociate the organic contaminants from the dredged material prior to oxidation of the contaminants and dissolution of the oxidized contaminants into the surrounding water. *See* Kupczik, column 3, lines 1-2. The Applicant respectfully suggests that the combination of the McLaughlin and Kupczik references is improper, as the nature of the problem to be solved (economical neutralization of hazardous organics contained within large quantities of dredged material and subsequent formation of a beneficial use product from this treated dredge material) does not suggest the desirability of modifying McLaughlin in order to physically separate the hazardous organics from the dredged material prior to oxidizing the resultant aqueous solution of hazardous organic materials.

Rejection of Claim 9 Under 35 U.S.C. §103

Claim 9 has also been rejected as being obvious. The Examiner contends that “It would have been obvious to one skilled in the art to modify the references as applied above by adding a polyelectrolyte flocculating agent in view of the teachings of Baize, to add in recovering sludge from the dredged material.” (Office Action at pp. 2-3).

In response, Applicants respectfully submit that the Examiner's obviousness rejection is misplaced. As stated above, combination of the McLaughlin and Kupczik references is improper in light of the fact that combining these references would change the principle of operation of the McLaughlin reference. Thus, any combination of the McLaughlin, Kupczik, and Baize references is an improper one.

In view of the above amendment and remarks, it is respectfully submitted that the present application is in condition for allowance. If the Examiner has any questions regarding the amendment submitted herewith, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

Applicants do not believe that any fees are due with this response other than the fee for the Petition to Revive filed with this Amendment. However, if any additional fees are due please charge such sums to our Deposit Account 50-1145.

Respectfully submitted,



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